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EXPLAINING DISSIDENT SUCCESS:
THE HUKS IN CENTRAL LUZON

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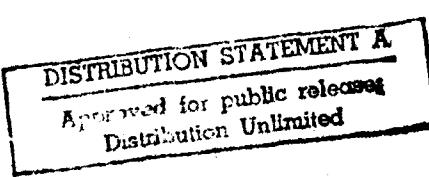
John Koehler

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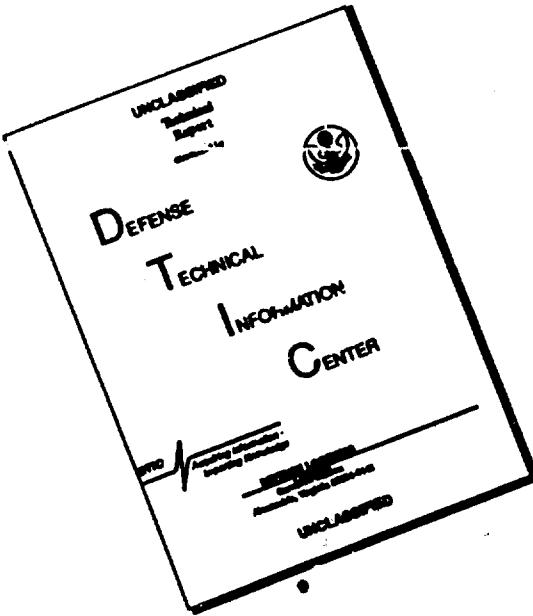
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SUMMARY

Explanations of insurgent control of given areas have varied from the socio-economic (degree of tenancy) to the quasi-military (insurgent coercion and terror). This study examines alternative statistical models that try to assess the causal factors involved in insurgent control in Central Luzon. We then compare several models that incorporate the operations of the insurgent organization as well as socio-economic variables. All of the formal models suggest that what insurgents do -- their terror and coercion -- is a stronger explanation of current insurgent control than is the socio-economic status of the population.

Interviews of the population concerning their attitudes toward the Huks are then compared with the results of the statistical models to see if a different form of evidence is consistent with the statistical models. The interview data again suggest that terror and coercion are a more appropriate explanation than socio-economic status and powerful feelings against the government.

The models presented here carry a mixed message for policy. The success of the HMB rests in large measure on what they do rather than on the condition of Philippine society; the roles of social variables are equivocal. This suggests that if the insurgents were astute and

ambitious, the area they control might be substantially extended. It might also be possible for the government to compress that area by moves designed to checkmate HMB operations. The outcome depends in these models largely on the relative effectiveness of the Constabulary and the insurgents and the relative costs they incur.

I. INTRODUCTION

The nature and causes of dissidence pose messy, uncertain, and subtle problems for research. The usual technical statistical problems -- specification error, simultaneity, multicollinearity -- must be overcome or tolerated; survey and interview data must be tested for bias arising from suspicion or fear; lack of a good, non-tautological theory leaves us with the need to go back always to first principles. Beyond these procedural problems, there remains the substantive difficulty of choosing among reasonable alternative explanations for violent dissidence and, having chosen, of translating models into policy. The purpose of this study is to consider alternative explanations of dissidence in the Philippines, to bring to bear alternative pieces of evidence at different levels of aggregation, and to extract policy implications. In this discussion we shall analyze several models of this rebellion and examine data for municipios, barrios, and individuals.¹

II. THE MODERN CONTEXT OF PHILIPPINE REBELLION

The Philippines has a long history of dissident movements forming, becoming active, and then declining. Since 1900 the nation has

experienced no successful revolution, although many believe that the Hukbalahap uprising of 1949-1953 came close to success.² Some, impressed by analogies to Vietnam, believe that the contemporary organization, called the HMB or Huk, poses a similar revolutionary threat.

Dissidence in various forms has endured for a long time in Central Luzon. However, in 1961 it would have been fair to say that the dissidence in that area had been reduced to a few HMB regulars and their families.³ At that time there were about 85 reported regulars in Central Luzon. In 1968 there were about 300 reported "regulars" throughout the Philippines and 150 reported in Central Luzon. (The count of the "regulars" included some persons who were active in the 1949-1953 insurgency but were no longer active.) There was a reported "mass base" of about 9,000 in 1960 and 32,000 in 1968. Such numbers, however, should not be taken too seriously. For example, between June 1966 and June 1968 the number of reported combat support and mass base tripled with no reported increase in the number of regulars, and no explanation of why each regular had apparently become so much more efficient a manager of men and resources.

Whatever the size of the organization, an important question in interpreting statistical models is whether the current one is truly the same organization as the Hukbalahap of 1949-1953 and whether the latter was largely the same as the wartime guerrilla force. If it is, then statistical models should be specified that appeal to historical continuity and the transmission of "tastes" for insurgency from generation to generation.⁴ If not, then current causes become more plausible.

III. THE MITCHELL MODEL: AN APPEAL TO CONTINUITY

Mitchell fits a regression model to controlled municipios with the following results:⁵

- (1) "Coercion," as represented by a "contiguity" factor is an important factor in determining control.
- (2) The presence of Pampangos, an ethnic and linguistic group, is a "crucial" condition for HMB success.
- (3) Control is greater where most men are farmers and most farmers are tenants.

The regression model is fitted using 1939 socio-economic data for municipios. Mitchell assumes that the current organization is the direct lineal descendant of the wartime Huks, the Huks who conducted the insurgency in 1949-1953. In fact his historical explanations make sense only on this assumption.⁶

We can break our discussion of the Mitchell model into two parts: problems of procedure, particularly specification and measurement, and problems of substance and interpretation. Problems of measurement concern, in particular, the matrix of contiguity coefficients used to transform or weight the raw 1939 socio-economic data. The matrix is derived from map measurements, raising the question of the reproducibility of the results and their sensitivity to measurement error.⁷

Mitchell writes his control equation

$$HC_j = F(HC_{ij}; X_{1j}, X_{2j}, \dots X_{nj}; e_j), j = 1, \dots J \quad (1)$$

where HC is a variable measuring the degree of Huk control. HC is defined as the fraction of barrios in a given municipality listed as "critical" by the Philippine Constabulary in 1967. Municipios in which some "critical" barrios are reported are shown in Fig. 1. The criteria

the constabulary uses to assign barrios to the "critical" category are not given.⁸ In any case the fraction of barrios controlled does not necessarily represent the fraction of population controlled. Obviously in a given municipality a large number of small population barrios could be controlled or conversely a few large barrios, giving measurement error in the actual amount of control. This suggests that the observations should be weighted by some measure of importance. The natural variable to choose as the weight in this case would be the adult population (see below).

Introducing indirect effects of control in one municipio on control in another and linearizing, we have in matrix notation

$$\underline{HC} = k \underline{AHC} + \underline{Xb} + \underline{e} \quad (2)$$

where \underline{HC} is a Jx1 vector of observations on Huk control, A is the JxJ matrix of weights, X is a Jxn matrix of J observations on n exogenous variables, and \underline{e} is a vector of random errors. Manipulating and solving for \underline{HC} yields

$$\underline{HC} = (I - kA)^{-1} \underline{Xb} + (I - kA)^{-1} \underline{e} \quad (3)$$

Since the equations are not linear in the parameters, direct application of ordinary linear multiple regression is not appropriate. Mitchell therefore selects a set of values for k, substitutes them into $(I - kA)$, and multiplies the inverse by the original observations. The value of k that produces the best fitting equation is taken to represent the role that control in neighboring municipalities plays in the control of a given municipality. If this k is large, then control in neighboring municipalities plays a large role in determining control in a given municipality.

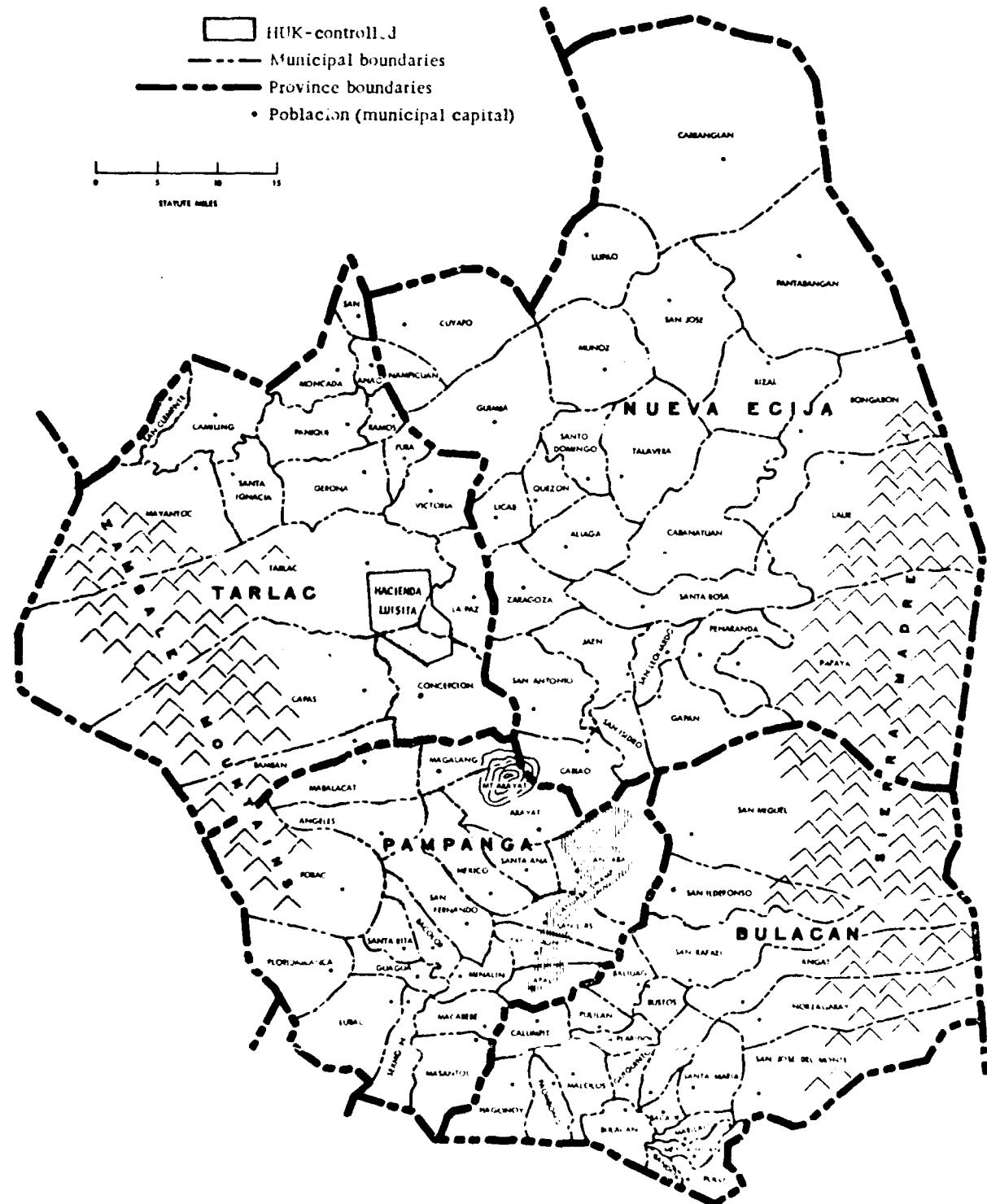


Fig. 1—Huklandia

Mitchell's estimation procedure deals neatly with two serious problems. The first is simultaneity: control in a given municipio is partly determined by the value of control in other municipios. The value of control in other municipios, in turn, is partly determined by its value in this municipio. Eliminating HC from the right-hand side transforms the equation into a "reduced form" in which this simultaneity, which would bias the estimated coefficients, is eliminated. The second problem arises from the presumed impact of HMB control on values of the independent variables. It could be argued, for example, that the extent of current sugar production in a municipio may have been affected by HMB operations and control. Mitchell skirts this difficulty by using 1939 census values for the independent variables, drawing the data from the period before the Huk existed as an organization. Adopting this solution for the simultaneity problem, however, forces Mitchell back into problems of meaning and interpretation, as we shall see below.

Equations (1a), (2a), (5a), and (6a) of Table 1 are the equations Mitchell derived from this procedure. Mitchell's interpretation of these equations is that mentioned above -- a large k supports a "coercion" hypothesis; whether k represents peasant perceptions or fears or organizational ability to create terror remains unclear. The presence of Pampangans is a necessary condition for Huk success.⁹ And Huk control is greater where most men are farmers and most farmers are tenants.

We sought to reproduce these results since the original data had been lost. In particular since the matrix A depended on map measurements, we were interested in the effects of measurement error on the results.

Table 1
A COMPARISON OF RUK CONTROL EQUATIONS
(standard errors in parentheses)

Equation Number		R^2	F
		(Reduced Form)	(Reduced Form)
(1) Mitchell's maximum at $k = .8$, P multiplicative			
(a) Mitchell	$HC = -1.53 + .8 HCN + P[2.28 FMP - 1.69 OWN + .33 SCR + 23.0 MNT + 11.6 SWP]$ (.46) (.26) (.09) (3.5) (4.2)	.88	60.5
(b) Recalculated	$HC = -5.31 + .8 HCN + P[1.68 FMP - .96 OWN + .05 SCR + 25.1 MNT + 9.70 SWP]$ (.42) (.22) (.06) (3.33) (3.72)	.84	56.8
(2) $k = 0$, P multiplicative			
(a) Mitchell	$HC = .94 + P[4.47 FMP - 2.10 OWN + .42 SCR + 40.3 MNT + 16.0 SWP]$ (.86) (.47) (.16) (6.7) (8.6)	.75	27.8
(b) Recalculated	$HC = .91 + P[4.02 FMP - 1.90 OWN + .40 SCR + 41.6 MNT + 17.6 SWP]$ (.90) (.44) (.16) (7.0) (8.6)	.73	31.2
(3) Our maximum at $k = .75$, P multiplicative, <u>Actual Distance matrix</u>			
	$HC = -5.06 + .75 HCN + P[2.07 FMP - 1.11 OWN + .08 SCR + 26.2 MNT + 10.1 SWP]$ (.45) (.24) (.07) (3.48) (3.9)	.85	58.4
(4) Our maximum at $k = .75$, P multiplicative, <u>Purely Random Distance matrix</u>			
	$HC = -6.40 + .75 HCN + P[2.38 FMP - 1.25 OWN + .09 SCR + 27.8 MNT + 13.2 SWP]$ (.50) (.25) (.14) (4.64) (4.52)	.84	54.9
(5) $k = .9$, P linear			
(a) Mitchell	$HC = 3.00 + .9 HCN - .03P + 2.15 FMP - .89 OWN + .30 SCR + 14.5 MNT + 16.5 SWP$ (.03) (2.15) (.19) (.10) (3.2) (4.4)	.71	17.3
(b) Recalculated	$HC = -3.41 + .9 HCN - .46P + .15 FMP - .34 OWN + .18 SCR + 11.9 MNT + 9.7 SWP$ (3.4) (.15) (.16) (.09) (2.23) (5.0)	.68	18.1
(6) $k = 0$, P linear			
(a) Mitchell	$HC = -6.13 + .19P + .88 FMP - .65 OWN + .44 SCR + 20.9 MNT + 18.5 SWP$ (.09) (.54) (.29) (.18) (5.4) (10.7)	.55	8.1
(b) Recalculated	$HC = -6.50 + .21P + .89 FMP - .72 OWN + .40 SCR + 22.1 MNT + 17.9 SWP$ (.09) (.55) (.27) (.18) (5.5) (10.8)	.55	11.3

Definitions:

- HC = the percentage of barrios in a municipality under Ruk control (1967-1968).
- P = the proportion of the population tha' speaks the Pampangan dialect (1939).
- FMP = farmers as a percentage of the population (1939).
- OWN = owners as a percentage of all farmers (1939).
- SCR = the percentage of cultivated land planted to sugar cane (1939).
- MNT = 1 if mountains are in or immediately adjacent to the municipality; 0 if not.
- SWP = 1 if a swamp is in or immediately adjacent to the municipality; 0 if not.
- HCN = a weighted average of HCs in bordering municipalities.

We began by constructing the matrix Λ of contiguity coefficients by measuring map distances using a graphic input device.¹⁰ The map distances were then transformed into percentages of common border -- the a_{ij} of matrix A . We then applied exactly the same procedure as had Mitchell, using his reported 1939 data. Figure 2 shows the relations between the contiguity parameter k and R^2 for our data and Mitchell's. The figure also shows the results of introducing measurement error by adding a random number to each original distance from which the A matrix was derived. Specifically, random numbers within the bounds of ± 20 percent of the original distances were added to the non-zero borders. Since the results were unchanged by this "partial" randomization, we then tried a completely random set of distances, simply substituting a random number between 0 and 100 for every non-zero distance. The results are only slightly sensitive to the extent of common border, once the pattern of commonality is set.

The R^2 in our curves does reach a maximum at .75 rather than Mitchell's .88. Lines (1a) and (1b) of Table 1 show the comparable equations. The equations differ somewhat in their coefficients; our coefficients are usually closer to zero, but with one exception they retain significance in our equations as well as Mitchell's. Sugar is the exception: Our calculations show the coefficient to be insignificant. (Mitchell's two speculative interpretations about sugar seem ill founded: (1) the allegedly high proportion of farm laborers and migrants on sugar cane estates, (2) the lack of paternalism of the sugar cane landlords. The first speculation is factually wrong: There is not a high proportion of landless sugar laborers in Pampanga. There is no evidence on the second.)

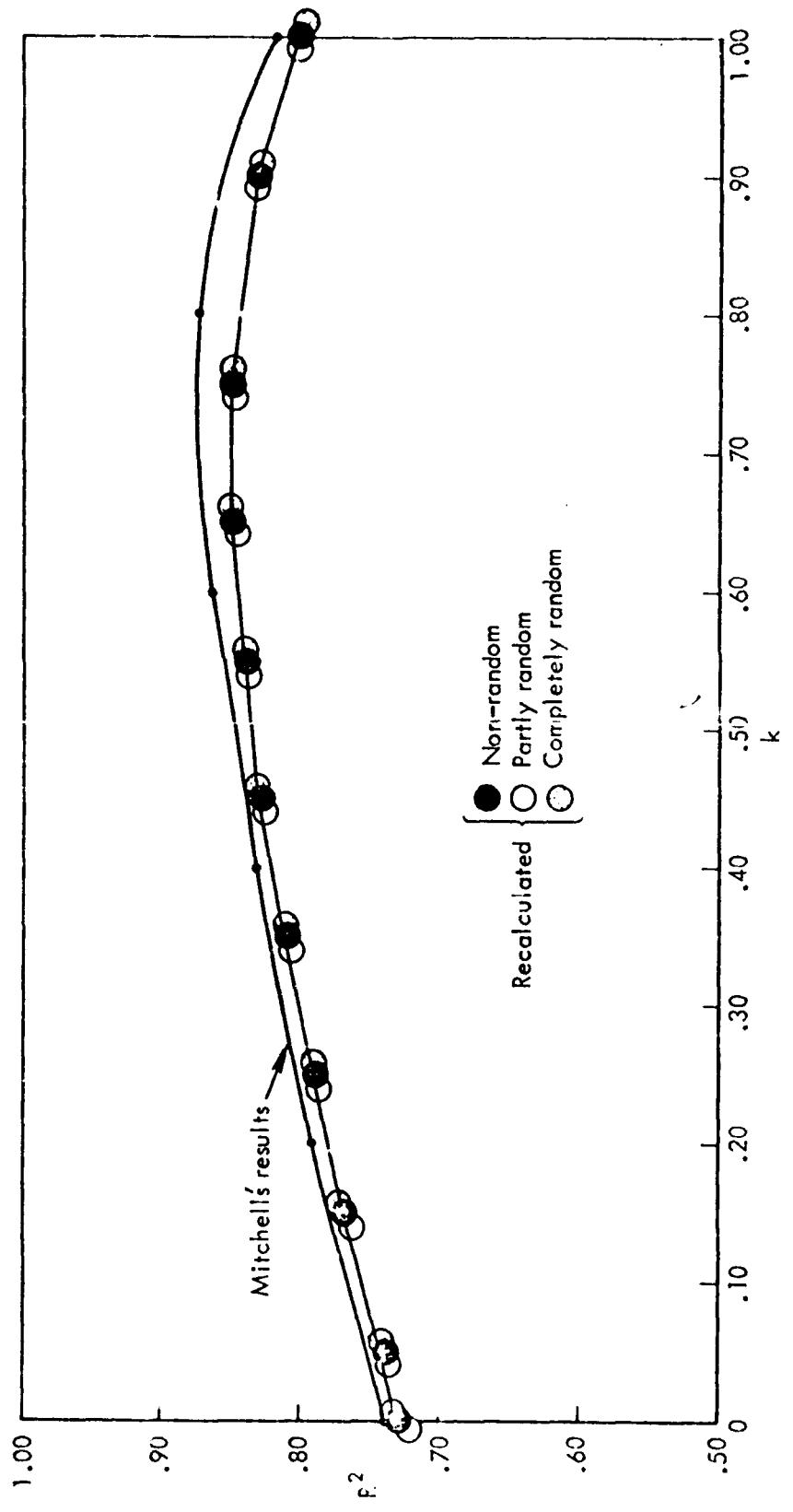


Fig. 2.—Relation between R^2 and L (Probability)

This still leaves us a problem of interpreting this model in a meaningful substantive way. And if the objective is to operate on insurgent control, we have to examine any policy implications of the model.

First consider the coefficient of HCN. Because R^2 is maximized when the coefficient is large, Mitchell argues that his theory of coercion through contiguity is well supported. In our own recalculated equations, the curve of R^2 against k is fairly flat beyond $k = .40$. In our multiplicative equation at $k = .45$, $R^2 = .83$; at $k = .75$ (our maximum), it is .85, not significantly different. And as noted, to explore the meaning of k we experimented with random common borders. There is never much difference in the results. Equation (4) of Table 1 shows this.

The reason for the stability of the coefficients lies in the specification of the model. Consider the matrix:

$$(I - kA)^{-1} = I + kA + k^2A^2, \dots$$

A typical element of A is equal to about .3 or less, and k is less than one. The higher order terms in $(I - kA)^{-1}$ vanish quickly. The impact of nonnegative coefficients in the A matrix will always damp down. So no matter what distances we start with, actual or random, when the actual data matrix X is multiplied by $(I - kA)^{-1}$ there will be little difference in the transformed data. We will always get approximately the same equation.

Consequently k has only limited meaning as a measure of contiguity or coercion; it is not at all sensitive to the lengths of shared boundaries of the municipios. Although contiguity interpreted as logistics,

intelligence, or fear may be important to insurgent control (and we argue that it certainly is), this particular specification captures it poorly. Central Luzon has an excellent road network and there is no inhibition in moving from municipio to municipio -- independent of how much common border there is.

Consider also the crucial way in which Pampangans enter the Mitchell equation -- as a "necessary" condition. The equation gives a better fit than a linear specification, since P is never significant in linear form. To justify the multiplicative version, selective appeals to history are made to the effect that Pampangans are intensely disliked by the rest of the population.¹¹ This overlooks the fact that the last president of the Philippines, Macapagal, was a well-known Pampangan.

Since Tagalogs live to the south of the Pampangans and the Ilocanos to the north, Mitchell presumes the Huks were contained by ethnic animosities.¹² On the specific point there is certainly evidence to the contrary. For example, in the 1961 election when a Pampangan, Macapagal, ran for President against a Cebuano, Garcia, the Ilocano provinces delivered an average of 71 percent of the vote for Macapagal compared with 50 percent for the country as a whole.¹³ Similarly, Mitchell finds that Pampangans failed to support the original revolutionary movements of 1892-1898, or only became supporters after Dewey captured Manila Bay.¹⁴ But even if true, what does it mean? Converts to causes are often truer believers than the original protagonists. And some contemporary opinion argued for the unanimity of Filipino revolutionary sentiment. Secretary of War Root, for example, observed that

it is sorely difficult to convey in written words what utter nonsense these expressions about the Pampangans and the Pangasinans [being less hostile] are to anyone who was in that northern advance in the fall of 1899. [Lawton's advance from Manila.] ...It is quite true that the Tagalogs were the prime movers in the insurrection against us, as they had been in all previous insurrections against Spain. But the "Tagalog tribe" was no more alone among the Filipino people in their wishes and views than the "unterrified" Tammany tribe who inhabit the wilds of Manhattan Island at the mouth of the Hudson River are alone in their views among our people.¹⁵

The point of our two examples is not that one interpretation of history is correct or incorrect. It is that for any given regression model one can find supporting historical evidence. In particular, whenever historians attempt to infer popular tastes and opinions, the room for argument is immense.¹⁶

These are surely not decisive criticisms of Mitchell's model. As we proceed, in fact, his emphasis on the importance of coercion will be re-confirmed with better data. But a puzzle remains: We know that there have been very large fluctuations in "control" over the short run. There is no environmental factor or long-run socio-economic variable that corresponds to these fluctuations. This suggests that the dynamics of rebellion require models with more than such stable explanatory variables.

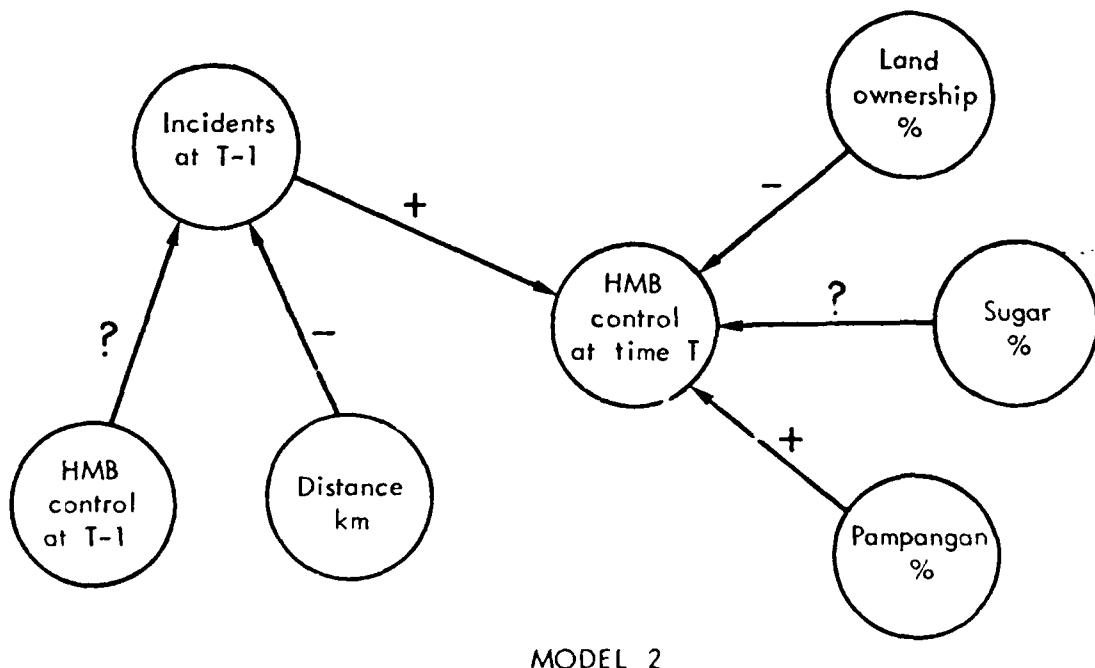
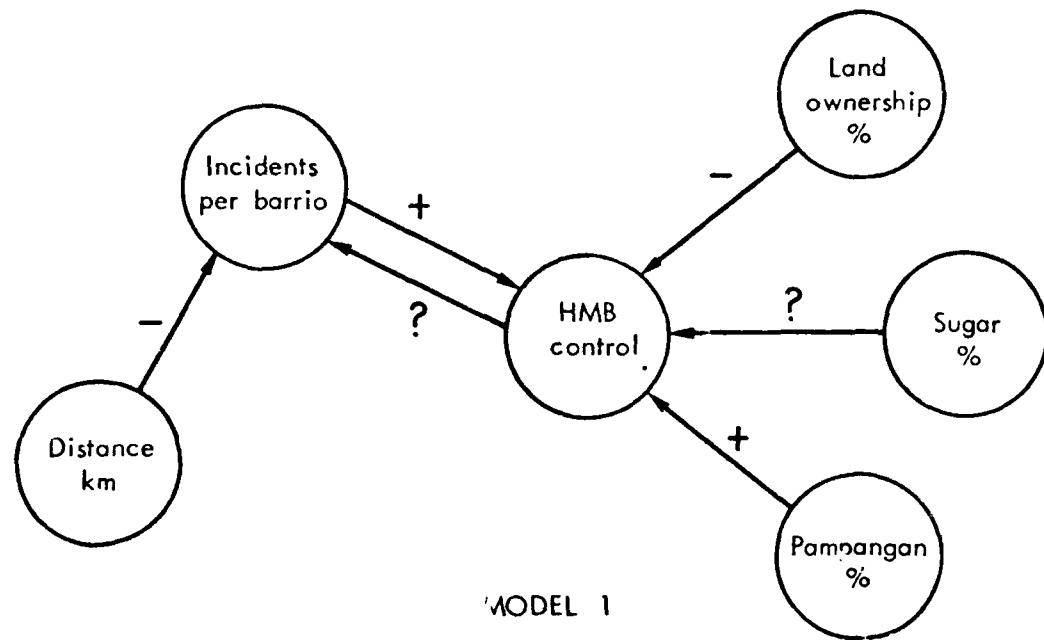
IV. ALTERNATIVE MODELS OF CONTROL -- MUNICIPALITIES AND BARRIOS

In order to capture the dynamics of control, we feel it is essential to examine the actual operations of the Huks in Central Luzon. These presumably have some more direct relation to control than does the geographic contiguity of controlled municipalities.¹⁷ From the Philippine Constabulary we were able to get data on Huk terror and

liquidations over time by barrio as well as a new list of controlled barrios.¹⁸ Thus we can construct alternative models related to actual behavior and operations rather than environment.

Figure 3 shows two alternative models for Huk control at the municipal level.¹⁹ The first model is a simultaneous equation model where current Huk control is related to current incidents, to 1960 land ownership, to the fraction of sugar grown in the municipality, and to the fraction of 1939 Pampangans.²⁰ We have related incidents to current control and to distance from Mt. Aravat, which is allegedly the main center for Huk logistics and command and control. The second model is a dynamic one. We relate Huk control in 1968 (time T) to past incidents and to the same social and economic factors as in Model 1. Past incidents, say at time T-1, depend on distance and on control at time T-1.²¹

Both models were fitted using a weighting scheme for the observations, since controlling some municipios should be more important than controlling others. The weight is the adult population. The results are shown in Table 2.²² In the first model the only variable that appears as significant in both weighted and unweighted versions is incidents per barrio, which are in turn related to control and distance. In the second model, incidents per barrio at time T-1 are again the major determinant of control, and we are able to explain incidents per barrio at time T-1 only as a function of control at time T-1. This model suggests that terror, as created by liquidations and assassinations, is a major contributor to the dissidence. Pampangans and owners are never significant. The weighted models show control as even more strongly related to incidents than the unweighted versions.



Note: HMB Control means fraction of barrios in municipality listed as controlled by constabulary. The expected signs of the coefficients are shown on the arrows.

Fig. 3 — Alternative models of HMB Control—Municipalities

Table 2

ALTERNATIVE MODELS OF MUNICIPAL CONTROL^a
(standard errors in parentheses)

Model 1:	$HC_T = .03 + 1.7C \text{ INCIDENTS PER BARRIO}_T - .002 \text{ OWN} - .0003 \text{ SGR} + .0008, F = .8 \text{ with } 4,1 \text{ D.F.}$
	$(.06) \quad (.45) \qquad (.0017) \quad (.002) \qquad (.0009)$
	INCIDENTS PER BARRIO _T = -.19 + .55 HC _T + .005 DISTANCE, ^b F = 38 with 2,3 D.F.
Model 1:	OBSERVATIONS WEIGHTED BY ADULT POPULATION
	$HC_T = .038 + 1.65 \text{ INCIDENTS PER BARRIO}_T - .0021 \text{ OWN} - .0016 \text{ SGR} + .00096, F = 1.7 \text{ with } 4,1 \text{ D.F.}$
	$(.058) \quad (.38) \qquad (.0017) \quad (.0014) \qquad (.00075)$
	INCIDENTS PER BARRIO _T = -.12 + .52 HC _T + .003 DISTANCE, F = 55 with 2,3 D.F.
	$(.05) \quad (.08) \qquad (.001)$
Model 2:	$HC_T = .05 + 1.10 \text{ INCIDENTS PER BARRIO}_{T-1} - .0014 \text{ OWN} - .0011 \text{ SGR} + .0014P, R^2 = .49, F = 12 \text{ with } 4,52 \text{ D.F.}$
	$(.06) \quad (.26) \qquad (.0016) \quad (.0018) \qquad (.0008)$
	INCIDENTS PER BARRIO _{T-1} = .02 + .0065 HC _{T-1} - .0006 DISTANCE, R ² = .53, F = 30 with 2,54 D.F.
Model 2:	OBSERVATIONS WEIGHTED BY ADULT POPULATION
	$HC_T = -.06 + 1.20 \text{ INCIDENTS PER BARRIO}_{T-1} + .0019 \text{ OWN} + .0004 \text{ SGR} - .0001P, R^2 = .52, F = 14 \text{ with } 4,52 \text{ D.F.}$
	$(.05) \quad (.25) \qquad (.0016) \quad (.001) \qquad (.0007)$
	INCIDENTS PER BARRIO _{T-1} = .02 + .006 HC _{T-1} - .0005 DISTANCE, R ² = .55, F = 33 with 2,54 D.F.

Notes:

^aWe retain the same notation as in Table 1 wherever we have the same variable. Time "T" refers to 1968 and "T-1" to 1965-1966. Incidents per barrio_{T-1} included as an instrument in the two-stage estimates.

^bIn two-stage estimates, the F statistic is that derived in P. J. Dhrymes, "Alternative Asymptotic Tests of Significance and Related Aspects of 2 SLS and 3 SLS Estimated Parameters," Review of Economic Studies, April 1969, pp. 213-226. This statistic is defined only for overidentified equations.

The analysis of control at municipal level is somewhat misleading for if we plot municipalities with some degree of control, Central Luzon appears solidly controlled by the HMB. However, if we plot barrios, controlled barrios exist right next to uncontrolled ones. In fact, controlled barrios are rather thinly scattered. The 24 municipios shown in our data as having at least one controlled barrio contain a total of 532 barrios of which 175 are shown as controlled. The "oil spots" of Fig. 1 are transformed into a scatter when we move to this lower level of aggregation.

Figure 4 shows three alternative models for barrio control in Central Luzon.²³ They represent different assumptions about how control is achieved. Model 1 assumes that it occurs directly through incidents and terror in a given barrio. Model 2 assumes that control in a given barrio occurs by demonstration, by controlling and targeting adjacent barrios. Metaphorically, in Model 1 you shoot the Mayor. In Model 2 you shoot the Mayor in the barrio next door and say, "See what happened to him." Model 3 tries to relate current control to past incidents in adjacent controlled barrios, and socio-economic variables. In turn current incidents are related to current control in a given barrio and its adjacent barrios as well as logistics factors. Model 3 also tries to explain the number of adjacent controlled barrios next to or contiguous to controlled barrios.

The results of fitting these three models are shown in Table 3. In all cases, the observations have been weighted by the adult population. The results of the three models together suggest again that HMB control and terror interact with each other, and socio-economic variables

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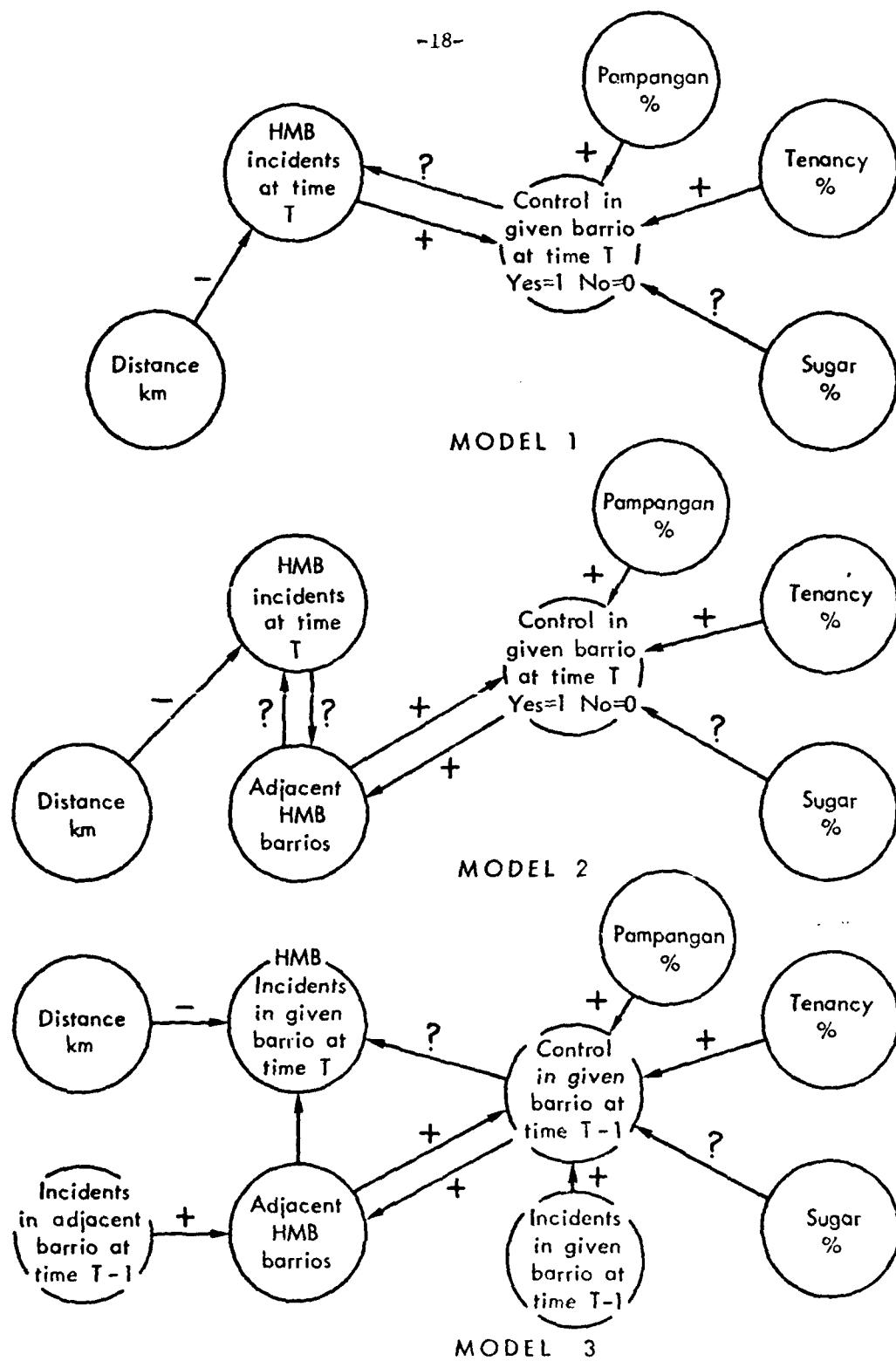


Fig. 4 — Alternative models of HMB Control—Barrios

Note: The expected signs of the coefficients are shown on the arrows

Table 3

BARRIO CONTROL MODELS, TWO-STAGE WEIGHTED ESTIMATES
 (standard errors in parentheses)

Model 1:	CONTROL = -.21 + .91 INBT + .00099 TEN - .028 SUGR + .52 PAMP
	(.07) (.06) (.0011) (.0020) (.045)
	INBT = -.021 + 1.49 CONTROL + .0049 DISTANCE, F = .4 with 2,2 D.F.
	(1.40) (1.26) (.038)
 Model 2:	 CONTROL = -.20 + .076 ADJBA + .0034 TEN - .0047 SUGR + .10 PAMP
	(.12) (.0086) (.0017) (.0012) (.075)
	ADJBA = -.71 + 9.44 CONTROL + 1.84 INBT, F = 47 with 2,2 D.F.
	(.37) (.70) (.28)
	INBT = -3.66 - 1.42 CONTROL + .53 ADJBA + .11 DISTANCE, F = 26 with 3,2 D.F.
	(1.09) (.07) (.03)
 Model 3:	 CONTROL = -.23 + .080 ADJBA - .082 INBTM + .40 TEN - .0044 SUGR + .12 PAMP, F = 88 with 5,1 D.F.
	(.12) (.009) (.036) (.17) (.0012) (.08)
	ADJBA = -.59 + 10.57 CONTROL + .32 INATM, F = 15 with 2,4 D.F.
	(.40) (.94) (.11)
	INBT = -3.0 - 1.60 CONTROL + .49 ADJBA + .092 DISTANCE, F = 96 with 3,3 D.F.
	(.78) (.98) (.05) (.022)

Definitions:

- CONTROL = 1968 HNB control of the barrio, 1 = yes, 0 = no.
 - INBT = Number of HNB incidents within 2 kilometers, 1967-1968.
 - TEN = Tenancy rate for municipio.
 - SUGR = Percent of farmland in municipio planted to sugar.
 - PAMP = Fraction of the population speaking Pampangan in municipio.
 - DISTANCE = Distance of barrio from base of Mt. Arayat.
 - INBTM = Number of HNB incidents within 2 kilometers, 1965-1966.
 - INATM = Number of HNB incidents 2 to 6 kilometers distant, 1965-1966.
- F is P. J. Dhrymes' F. See footnote b, Table 2.

play a lesser role. Proportion Pampangan is not a significant variable in any of the models except in Model 1. In all the models tenancy and sugar tend to offset each other. Barrios that devote a large fraction of their land to growing sugar have a lower probability of being controlled than other barrios²⁴ and conversely, with respect to tenants. Model 1 is less satisfactory than the other two; only two of its six coefficients are significant. Models 2 and 3 seem to be about equally good.

At both barrio and municipio level, the statistical results consistently emphasize the importance of operational considerations in determining the pattern of HMB control.²⁵ In all of the models HMB incidents play a powerful role in the control equations. Socio-economic variables are more ambiguous and weaker in effect, although they appear significant in some specifications. This result differs from Mitchell's view that the HMB is primarily an ethnic phenomenon fed by a tradition of rebellion and discontent over tenure arrangements.²⁶

V. SOME DATA ON INDIVIDUAL ATTITUDES

Many problems arise when aggregate data are used to infer relationships about individuals.²⁷ The behavioral interpretation of aggregate models rests on statements about individuals. For example, the regression models discussed above use percentage of land owners in a municipality as an independent variable. Mitchell argues that the more owners there are the less Huk control, implying that either tenants are discontented and demanding insurgency or that they are special targets of the HMB. We were able to obtain individual data in a nationwide

survey in which we asked a number of questions about attitudes toward the Huks and the government.²⁸ Interview areas covered Central Luzon, in particular areas listed as under Huk control. (See Fig. 1.)

Survey data must be interpreted cautiously, particularly when they come from areas where insurgents and the government are in conflict. Responses to factual questions about the nature of HMB activities corresponded closely to our other information on HMB activities by area. The correspondence on these questions increases our confidence in the validity of the responses to the attitudinal questions. However, the proportion of non-responses to the HMB questions was higher in Central Luzon than elsewhere, about half compared with one-third nationwide. This could be consistent with the hypotheses either that people in Central Luzon are more afraid of the HMB or that they are reluctant to compromise the HMB to interviewers who might be representatives of the government.

Table 4 shows evaluations of the HMB by mother tongue for the Central Luzon area. The views of the respondents cannot be said to be favorable. Pampangans hold about the same views as the other language groups of Central Luzon, as indicated by the low values of χ^2 , although these groups have a relatively more favorable view of the HMB than do most other Filipinos.²⁹

Table 5 presents a breakdown of responses on perceptions of personal welfare by proximity to HMB controlled areas. Respondents in the Huk areas do not appear to be different in their responses. Nor do they appear to view the government in any worse light than other groups (Table 6). Constabulary and the police rate about equally, slightly

Table 4

ATTITUDES TOWARD HMB BY MOTHER TONGUE -- CENTRAL LUZON
(percent)

	Not Applicable (0)	Partly Descriptive (1)	Descriptive (2)	Mean Response	SSR
1. HMB as the hope of the tenant					
Pampangan	40	33	27	.87	23
Pangasinan and Tagalog	36	45	19	.83	190
$\chi^2 = .2$ with 1 D.F.					
2. HMB as men of justice					
Pampangan	33	60	7	.74	27
Pangasinan and Tagalog	43	48	9	.66	191
$\chi^2 = .09$ with 1 D.F.					
3. HMB as brutal					
Pampangan	47	42	12	.66	30
Pangasinan and Tagalog	26	46	29	1.04	196
$\chi^2 = 2.2$ with 1 D.F.					

Note:

Weighted percentages. SSR denotes actual number of respondents.
Chi squares done combining "partly descriptive" and "descriptive"
responses.

Table 5

MEDIAN RESPONSES ON WELFARE BY PROXIMITY TO HMB

Area	Life Present ^a	Rank	Life Future ^a	Rank
HMB	3.32	3	6.64	2
Near HMB	4.57	2	5.48	3
Laguna	2.92	5	5.42	4
Greater Manila	4.95	1	7.35	1
Ilocos	3.09	4	5.28	5
Bicol	2.75	6	4.40	6
National Median	3.13		5.52	

Note:

^aMedians based on weighted percentages. Text of question:

Here is a ladder with 10 steps (SHOW LADDER). Let us say that the highest step (POINT) represents the best life you can imagine. The lower the steps in the ladder (TRACE STEPS DOWNWARD) the worse the kind of life -- so that the bottom step (POINT) represents the worst kind of life you can imagine.

Now --

- a) What step on the ladder were you on 3 years ago? _____
- b) What step are you on today? _____
- c) What step do you expect to be on 3 years from now? _____

"HMB" areas are municipios in which some controlled barrios are listed by the Constabulary. "Near HMB" are other municipios in Central Luzon.

Table 6

VIEW OF HONESTY OF GOVERNMENT REPRESENTATIVES BY
PROXIMITY TO HMB

Region	Mean Response ^a on				SSR
	Constabulary	Local Politicians	Local Police		
HMB	1.25	1.09	1.32		179
Near HMB	1.34	1.05	1.27		67
Laguna	1.38	1.05	1.31		54
Greater Manila	1.23	.96	.98		97
Ilocos	1.64	1.46	1.67		129
Bicol	1.28	.97	1.35		94

Note:

^aScale is 0, corrupt; 1, half and half; 2, honest. Mean responses based on weighted percentages. SSR denotes actual number of respondents.

above the middle ranking, with politicians falling at the middle. Overall, these and other survey data suggest the government's image is no worse in the Huk areas than it is in other regions.

This evidence on attitudes in Central Luzon should certainly not be taken as conclusive. However, it is not consistent with the contention that insurgency persists here and not elsewhere in the Philippines because of greater dissatisfaction with government performance and a much more favorable view of the HMB. Table 5 also suggests that the inhabitants of HMB areas would not rank any worse on a scale of perceived "relative deprivation" than most Filipinos and that they are relatively optimistic about their future.³⁰ This is all consistent with the emphasis on HMB operations that emerged from the regression models.

VI. THE HUK ORGANIZATION

For policy purposes we need to understand not only the determinants of insurgent control but the reasons the insurgents are in "business" at all. Terror and violence have many purposes. What is the purpose of the modern Huks? In particular, do they have the same revolutionary motives as the 1949-1953 Huks or are they more like the Mafia, made up of individuals motivated by personal gain? Continuity of motivation is at least a necessary condition for identifying the modern HMB with the historical Huks.

Large amounts of detailed evidence on the structure and procedures of the Huk organization are hard to acquire. In 1960 through the Constabulary we were able to gain access to interviews with 12 Huk prisoners

having recent service.³¹ During their service the Huks apparently were split in two major factions: an ideological faction and a criminal faction. Since that time the organization has continued to evolve. It is now alleged that there are three major factions: a Maoist group whose principal leader was trained in Peking, a smaller Moscow-oriented group, and the old criminal faction.³² Our discussion here will be limited to the 1969 period where we have some direct primary evidence.

All but three of the respondents came from the area nominally under the control of Commander Freddie.³³ This area includes Southwest Pampanga, Northern Bataan, and the Olongapo-Subic complex. Nine of the interviewees were privates in armed groups. There were also a commander and a vice commander from the military arm of the Huks, and one low-level cadre.

All but one of the nine interviewees from Freddie's area, when asked about the training they had received, mentioned political indoctrination. Most of them held the same political views. Typical quotations from four of the subjects are given below.

We have group meetings and in said meetings, we were lectured to by the commander. We were told that the Philippine Government is not bad, and it is only the administrators of said government that ought to be changed. Change could be effected either by elections or violence if need be.

China and Russia were the only countries mentioned to us in lectures and in group talks by our leaders. It is said that those two countries are the only ones that are now led by the true sons of the motherland, that see to it that the people are served and not the people serving the officials of the government. They said that the HMB movement aims to attain what had happened in those countries, China and Russia.

...the main enemies of the HMBs are, first: the local exploiters who suck the blood of the common tao so as to

enrich themselves; the people in the government who commit graft and corruption and all sorts of anomalies just to entrench themselves in power; those people who serve as stool-pigeons for the above-mentioned personalities, and, secondly, those foreigners who drain our rich natural resources, export it to other countries and bring it back as finished products and sell it beyond the reach of the common people. Most of these aliens are the Americans. They were what we called American imperialists.

They told us that they wanted to establish a New Democracy that will give justice to everybody, and that there will be no more poor and no more rich, but everybody will be equal. "How?" By establishing a government that is really after the welfare of the working man, a government for the Filipinos not dictated by foreigners.

These statements resemble those in early Viet Cong documents. Perhaps of some interest and unlike Vietnam is the lack of an attack on the government as an institution. Only the people in the institution are attacked.

As for the alleged ideological split between Sumulong, the chief of the HMB at that time, and Freddie and the other commanders, five subjects were aware of some split.³⁴ Two others described Sumulong as loyal to the HMB's political motivation. The strongest criticism of Sumulong ran as follows:

I think the leaders of the HMB are in the organization in order to guide the movement of the HMB and their ardent desire is to champion the cause it is fighting for. I do not know any of the persons you mentioned [personally]. All I know is that the group of Commander Caviteno is out to get Commander Sumulong because this Sumulong has already turned traitor to the cause of the HMB.

The one interviewee from Sumulong's group -- the Angeles-Clark faction -- stated that Sumulong himself was a "die-hard Communist." However, this person was extremely vague on the goals and purposes of the organization. He could not cite any specific political indoctrination.

One other subject whom we could not specifically place in the organization, although he was apparently not in Sumulong's or Freddie's group, said he knew Sumulong personally and spoke about him in knowledgeable terms. Again, unfortunately, his information was less useful than it might have been, since he was the only person without very recent experience in the HMB. He left the organization in December 1966. However, he did have personal experience of Sumulong's teaching the standard line, and he also called Sumulong a die-hard Communist.

The interviews suggest that the group under Freddie received regular political training. That training is similar to that used by Communist dissident organizations around the world. They also suggest that the group under Freddie was generally aware of a power struggle going on in the organization. The signals were much less clear about whether this power struggle was over ideology or its betrayal. In 1969 the evidence suggests that the Huks were split, with the Angeles-Clark faction primarily interested in personal gain.

Clearly, we should not rely very heavily on these 12 interviews to establish the nature of the HMB -- although 12 is not a trivial fraction of all reported HMB regulars. It may be significant that five of the 12 are not ethnic Pampangans; this is mildly inconsistent with the proposition that a Pampangan-speaking population is a necessary condition for HMB control in a properly specified model. The most important role of this interview data, however, is to confirm the reports that the HMB organization is torn by power struggles and to underscore the complex nature of the process by which the organization succeeds or fails. Although operational variables are as important in determining the

pattern of control as variables relating to social unrest, it is still possible that members of the HMB themselves -- particularly at lower levels -- may be motivated in large part by idealistic visions of transforming society.

VII. POLICY TOWARD THE HMB

It is important not to apply the metaphor of Vietnam to the HMB. The current Philippine insurgency bears little resemblance to the early Viet Cong. Actions based on an alleged similarity are likely to be unproductive. When we speak, for example, of HMB "control" of a barrio it should be clear that the government has not been denied access to the barrio and that its social structure has not been rebuilt by the insurgents, as was the case in Vietnam. The HMB themselves often live fairly ordinary lives at home with their families. This rebellion does not fit the models of a "classical" insurgency.

Although it may not be a "typical" insurgency, the HMB is still a nuisance for the Philippines government. The common view of politicians and the press is that the HMB draws its power from popular discontent with social conditions -- particularly land tenure arrangements -- and dissatisfaction with the performance of the government. If this is true, the HMB may be a serious threat. Areas of tenancy extend beyond the current area of HMB operations providing, according to this view, promising areas for HMB expansion. By the same token, it would be difficult to reduce the level of HMB control because it is hard for the government to accomplish significant changes in the social conditions alleged to underlie HMB support among the people.

Mitchell's view of the HMB would alter the prognosis, but not the prescription. If, as he contends, it is very difficult for the HMB to enjoy any success outside areas dominated by Pampangans, then the future of the organization is bleak. Pampangans represent only a small minority of the Philippine population and are not found in large numbers outside of Central Luzon. Mitchell's model holds out little hope that the government could accomplish much reduction of the area at present under HMB control: the propensity to rebellion has been handed down like an inheritance from father to son, and that propensity and the social conditions on which the rebellion is further supported are not amenable to rapid change.

The models presented here carry a mixed message for policy. The success of the HMB rests in large measure on what they do rather than on the condition of Philippine society; the roles of social variables are equivocal. This suggests that if the insurgents were astute and ambitious, the area they control might be substantially extended. It might also be possible for the government to compress that area by moves designed to checkmate HMB operations. The outcome depends in these models largely on the relative effectiveness of the Constabulary and the insurgents and the relative costs they incur.

FOOTNOTES

* Any views expressed in this paper are those of the authors. They should not be interpreted as reflecting the views of The Rand Corporation or the official opinion or policy of any of its governmental or private research sponsors. Papers are reproduced by The Rand Corporation as a courtesy to members of its staff.

¹ See E. J. Mitchell, "Inequality and Insurgency: A Statistical Study of South Vietnam," World Politics, April 1968, pp. 421-438. For a critique of Mitchell's results for Vietnam, see Jeffery M. Paige, "Inequality and Insurgency in Vietnam: A Re-analysis," World Politics, October 1970, pp. 24-37. In this study we are particularly concerned with E. J. Mitchell, "Some Econometrics of the Huk Rebellion," American Political Science Review, Vol. 63, January 1970, pp. 1159-1171.

² See A. H. Peterson, G. C. Reinhardt, and E. E. Conger, eds., Symposium on the Role of Air Power in Counterinsurgency and Unconventional Warfare: The Philippine Huk Campaign, RM-3652-PR, The Rand Corporation, June 1963. This work shows Huk "control" extending throughout Central and Southern Luzon, with bases existing in Northern Luzon. Activity was also reported in the southern islands of the archipelago. For the history of the Huks, see Renze L. Hoeksema, Communism in the Philippines, Department of Government, Harvard University, unpublished doctoral dissertation, 1957 or Eduardo Lachica, HUK: Philippine Agrarian Society in Revolt, Solidaridad Publishing House, Manila, 1971.

³ Philippine Constabulary files distinguish four types of Huks:

(1) regulars -- persons who conduct insurgent activities on a full-time basis, (2) combat support -- "die hard" followers who are part-time fighters, (3) service support -- collectors, messengers, and other persons who work for the Huks but within the laws of the republic, (4) mass base -- persons who voluntarily extend sympathetic assistance and cooperation. Source: Constabulary reports, 1st Zone (Central Luzon). Collating reports across the entire country gives 122 regulars in 1961. Although these reports represent the raw material for reports of Huk strength and control, the underlying intelligence process remains unclear. For example, incentives for agents to deliver true and false information are unknown to us.

⁴ The continuity argument has been made for Vietnam where VC control has been attributed to their presence in the social structure for several generations. But we should be wary of an easy translation to the Philippines.

⁵ Mitchell, "Some Econometrics of the Huk Rebellion."

⁶ The evidence is that the HMB are not the same organization. There are several organizations under different leaders that parade under the HMB name. In 1968 there were two. Press accounts currently suggest three. See below for some interview evidence.

⁷ The contiguity coefficients depend upon the 1939 municipal boundaries which are not always the same as the 1960 boundaries. Thus, although the 1967 control data and the 1939 socio-economic variables in Mitchell's model refer to the same names, they do not always refer to the same entities.

⁸ We were never able to rediscover the source of Mitchell's list in the Constabulary. The data on 1967 "control" that we obtained overlapped but did not match Mitchell's "control" for the same year, and there were some obvious errors on Mitchell's list of controlled barrios. Some of his listed barrios are really sitios -- clusters of a score of huts rather than legal entities -- and some of the barrios named could not be found on maps or official lists of political units.

⁹ Formally, the values of the other exogenous variables are multiplied by P before being transformed by $(I - k\Lambda)^{-1}$ or, in the linear case, before being used to fit the equation. This implies that control must be zero where P is zero.

¹⁰ Credit should be given to Robert Mobley who wrote the computer program.

¹¹ Mitchell, "Some Econometrics of the Huk Rebellion...", p. 1167.

¹² Ibid.

¹³ Macapagal was married to an Ilocano, so he apparently carried part of the Ilocano ethnic vote on this basis.

¹⁴ Mitchell, "Some Econometrics of the Huk Rebellion...", p. 1167.

¹⁵ James H. Blount, American Occupation of the Philippines, 1898-1912, Malaya Books, Quezon City, Philippines, 1968, pp. 243-244.

¹⁶ This is how Lazarsfeld makes the case for wider use of public opinion surveys in historical analysis. See P. F. Lazarsfeld, "The Historian and the Pollster," in S. M. Lipset and R. Hofstadter, eds., Sociology and History: Methods, Basic Books, Inc., New York, 1968, pp. 386-407. As Lazarsfeld puts it, "It would also be helpful if the historians became more aware of their lack of data on matters about which they write with considerable confidence."

¹⁷ From now on a "controlled" barrio means one in which the Huks were expected to operate on a regular basis and one in which regular forces feel secure enough to sleep. This is the definition used by the Constabulary officers who compiled our data.

¹⁸ Huk control is not defined in terms of Huk liquidations and terror, but killings are attributed to the Huks on the basis of objective evidence -- for example, people killed with Armalites or AK-47s -- and on the basis of intelligence information.

¹⁹ By control at the municipal level we mean the fraction of barrios in each municipality listed as "controlled" by the Philippine constabulary. The denominator of the fraction is the total number of barrios in 1960. In some municipios new barrios have been created since 1960.

²⁰ Percent Pampangans not reported in the 1960 census. We were able to obtain an estimate of the 1960 percentage for 46 out of 57 municipios through the courtesy of Dr. Mercedes Concepcion of the University of the Philippines who gave us access to a 1/2 percent sample of the 1960 census. The correlation between percent Pampangans in 1939 and 1960 for the 46 municipios is .92.

²¹ The Constabulary did not to our knowledge keep lists of "critical" barrios in 1965. There was little reason, since there was not much insurgency. All lists of critical barrios are derived from the basic Constabulary intelligence documents. The Constabulary intelligence officers in the first zone used the 1965 documents to construct a list of critical barrios for that year.

²² In Table 2 the first model was estimated by two-stage least squares. The second model, since it is formally recursive, was estimated by ordinary

least squares. Since there is little relation between HC_T and HC_{T-1} , when we fitted model 2 using two-stage least squares and treating HC_{T-1} as jointly determined, no variables were significant.

²³ By barrio control we mean a binary variable: (0) if the barrio is listed as uncontrolled, (1) if the barrio is listed as controlled. Data on barrios are much more difficult to obtain than data on municipalities. The manuscript census for 1960 has been burned, and it was the only source from which detailed data on all barrios could have been obtained. However, from our 1/2 percent 1960 census sample we can obtain information on some of the barrios. The barrios considered all lie within 50 kilometers of Angeles City. This includes all barrios listed as controlled in February 1968 and a random sample of uncontrolled barrios, giving 305 total barrios. Published census data on mother tongue, tenancy, and labor force in sugar were available at municipio level but not for barrios. This would create only a minor problem in estimation if the within municipio variance were small relative to the between municipio variance. It has been shown by D. M. Grether that when independent variables are very highly serially correlated, interpolation of missing values may result in substantial gains in the efficiency of estimation. We would expect that barrios in one municipio would not differ greatly in percent Pampangan, tenancy, and sugar. Thus, the efficiency of estimation would be increased by using the municipio values, which are themselves weighted averages of the barrio values. See Grether, "Notes on Missing Observations in Regression Models with Serially Correlated Independent Variables," unpublished Cowles Foundation Paper, September 18, 1969.

If we express the difference between the municipio value and the true barrio value for which it is substituted as p_{ij} where i indexes variables and j barrios, the expected values of elements in the moment matrix, are unchanged if (a) $E(p_{ij}x_{kj}) = 0$ and (b) $E(p_{ij}p_{kj}) = 0$. Using data for the 17 barrios that can be found both in our sample and in the 1/2 percent sample of the 1960 census, (a) appears to be true. Condition (b) cannot be tested.

²⁴ At the municipal level sugar was not significant. Mitchell, The Huk Rebellion, finds a positive relation between sugar and control.

²⁵ Fitted without weighting, these barrio models are substantively the same, although levels of significance are lower as we would expect.

²⁶ In a recent article, Donald S. Zagoria argues that the HMB, like the Indian Communist Party and the Indonesian PKI, draw their strength from unrest caused by a combination of tenancy and population density. It is true that the populations of Pampanga and Bulacan are relatively dense. If the effect Zagoria claims were actually true, however, we would expect it to be true at municipio level as well as at province level. If we fit the municipio models to data including population density (hundreds of people per square kilometer), density is never a significant variable in the control equations. Therefore Zagoria's contention does not hold for municipios. It cannot be tested for barrios.

See Zagoria, "The Ecology of Peasant Communism in India," American Political Science Review, 65, March 1971, pp. 154-155.

²⁷ The "ecological" correlation problem has a long history, dating back to 1950. The most recent study is W. Phillips Shoveley, "'Ecological' Inference; The Use of Aggregate Data to Study Individuals," American Political Science Review, 63, December 1969, pp. 1183-1196.

²⁸ See Appendix A, H. A. Averch, J. E. Koehler, and F. H. Denton, The Matrix of Policy in the Philippines, Princeton: Princeton University Press (1971), for the questionnaire. The interviewing was done by the Filipino staff of Asia Research Organization, covering a nationwide sample of 1,550.

²⁹ Nationwide tabulations of attitudes toward the Huks indicate that they do not have widespread appeal.

³⁰ See T. R. Gurr, Why Men Rebel, Princeton University Press, Princeton, 1970. Gurr's book is the most complete account of relative deprivation (RD) hypotheses -- psychological hypotheses -- about the causes of rebellion. Gurr sums up the RD literature as saying that "men are quick to aspire beyond their social means and quick to anger when these means prove inadequate, but slow to accept their limitations" (p. 59). Operationally relative deprivation can be inferred from survey techniques or from the properties of the social system (p. 83). Respondents in our survey predict that "value capabilities" -- ability of society to provide desired goods, services, and rewards -- will rise. Presumably what individuals think society owes them is contained in the best life they can imagine -- which we asked. So it can be argued that our self-anchoring scale is an indirect measure of RD. The results suggest that our respondents do not feel great RD in Central Luzon or elsewhere.

³¹ The subjects interviewed range in age from 21 to 46; most are in their twenties. Six subjects had three or fewer years of education, three had five years, and two had some high school; the education of one is unknown. Seven subjects are from Pampangan-speaking families, three

are Tagalogs, one is an Ilocano, and one a Cebuano. Thus, a cross-section of major Philippine ethnic groups is represented. All but one of the subjects had experience in the HMB during 1968 or later; their views should be quite contemporary. However, there were no personnel with a long period of service. The most experienced subject spent four years in the HMB. Six subjects were captured by the Constabulary and six surrendered.

³² See R. Evans and R. Novak, "Philippine Guerrillas Active," Los Angeles Times, May 18, 1970; a UPI report alleges that the young Maoists have been trying to grab power from the older Maoists, Los Angeles Times, June 3, 1970.

³³ Until he was killed in an engagement with the Constabulary early in 1969.

³⁴ Sumulong was supposed to control the area around Clark and Angeles. It is argued that Sumulong and his men are interested in personal gain while other branches are ideological. The factionalism has erupted into violence.